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**C04B 35/58****B23P 15/28****C04B 35/58**(21)Application number : **03-209634**(71)Applicant : **MITSUBISHI HEAVY IND LTD**(22)Date of filing : **21.08.1991**(72)Inventor : **TSUKAMOTO EIHIKO  
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YAMADA FUKUJI****(54) SINTERING MATERIAL FOR TOOL****(57)Abstract:**

**PURPOSE:** To obtain a sintering material for a tool improved in the capacity of carrying cubic system boron nitride granular material of a bonding phase and to obtain a sintering material for a tool excellent in wear resistance at a high temp., chipping resistance or the like by mixing a prescribed amt. of binder having a specified compsn. to cubic system boron nitride granular material.

**CONSTITUTION:** By volume, 50 to 65% aluminum oxide, 1 to 5% zirconium oxide, 20 to 40% aluminum nitride and 5 to 15% acicular crystals of silicon carbide are mixed to prepare the accessory component material of a bonding phase. Next, 15 to 35% of this accessory component material and 15 to 45% of titanium nitride to form the essential components of the bonding phase, are mixed into 70 to 40% cubic system boron nitride granular material to manufacture the objective sintering material for a tool. In this way, since this material is essentially consisting of TiN having high hardness at a high temp., and contains AlN increasing its activity at the time of sintering and a binder contg. alumina, zirconia and SiC acicular crystals having good sinterability as well as high toughness as the accessory components, the capacity of carrying cubic system boron nitride granular material of the bonding phase can be improved.

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